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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/072,784	05/06/1998	BARIN GEOFFRY HASKELL		6905

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EXAMINER

CHEN, WENPENG

ART UNIT PAPER NUMBER

2624

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/072,784

Applicant(s)

HASKELL ET AL.

Examiner

Wenpeng Chen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 29,30,34,35 and 39-44 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 29-30, 34-35, 39-44 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/21/2005 has been entered.

**Examiner's responses to Applicant's remark**

2. Applicants' arguments filed on 3/21/2005 have been fully considered.
3. The amendments overcome the rejections to (1) Claim 29 under 35 U.S.C. 102(e) based on Suzuki et al. and (2) Claims 34, 39-41, and 43-44 under 35 U.S.C. 103(a) based on the combination of Suzuki et al. and Chang et al. set forth in Office Action mailed 11/22/2004.
4. Applicants' arguments are not persuasive, even with the newly added amendments, with regard to the rejections to (1) Claims 29-30 under 35 U.S.C. 103(a) based on the combination of Suzuki et al. and ISO/IEC JTC1/SC29/WG11 N1993 publication and (2) Claims 34-35 and 39-44 under 35 U.S.C. 103(a) based on the combination of Suzuki et al., ISO/IEC N1993, and Chang et al.

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a. Applicants' argument -- The Examiner cannot take competing interpretation of Suzuki et al. For the rejections to Claim 29 under 35 U.S.C. 102(e) based on Suzuki et al. set forth in Office Action mailed 11/22/2004, the Examiner considered one-bit flag for scalability as the priorities recited in Claim 29 (first interpretation). For the rejections to Claims 29-30 under 35 U.S.C. 103(a) based on the combination of Suzuki et al. and ISO/IEC JTC1/SC29/WG11 N1993 publication, the Examiner did not considered the one-bit flag for scalability to be priorities recited in Claim 29 (second interpretation.)

Examiner's response -- The different interpretations stem from the fact that Claim 29 as presented on 11/22/2004 can cover both interpretations. The Examiner can make any reasonable interpretation of a claim. When a claim recites a broad scope, an examiner can read the claim in several versions to cover different scopes that can potentially be covered by the recitation. As presented in the Office Action, there is no connection between the above-mentioned 102(e) rejection and 103(a) rejection. Their ground rejections are independent.

b. Applicants' argument -- With regard to rejections based on the combination of Suzuki and ISO/IEC N1993. It is lack of motivation for combination, because a modification to Suzuki's syntax would change their proposed standard such that a decoder may become non-compliant to their syntax.

Examiner's response -- It was obvious to one of ordinary skill in the art, at the time of the invention that decompression (decoding) is the reverse process of compression (coding) of video. It would have been obvious to one of ordinary skill in the art, at the time of the invention to modify the corresponding decoding step based on the decoded "visual\_object\_layer\_priority" taught by N1993, when the coding process is modified to include "visual\_object\_layer\_priority"

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information. The arguments that a decoder may become non-compliant to their syntax by assuming one does not know to change the corresponding decoding process is not persuasive.

c. Applicants' argument -- With regard to rejections based on the combination of Suzuki and ISO/IEC N1993. It is lack of motivation for combination, because N1993 teaches away from the combination. The Applicants argued by referring to N1277 reference and then concluded blending Suzuki et al. with the N1993 reference would alter the principle of operation of one or more of the reference.

Examiner's response --The reasons why the combination is sound have been addressed in the previous office actions. There is no difference in the principle of operation of the cited references: they all operate based on the "video object" concept and the principle of selecting layers of "video object" data for scalability of data. It would have been obvious to one of ordinary skill in the art, at the time of the invention to include various kinds of scalability approaches in video transmission and storage.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 30 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for the following reasons.

There are insufficient antecedent bases for the following limitations.

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-- Claim 30 recites the limitation "the identifier" in line 1.

-- Claim 35 recites the limitation "the identifier" in line 1.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8. Claims 29-30 are rejected under 35 U.S.C. 102(a) as being anticipated by ISO/IEC JTC1/SC29/WG11 N1993 publication ("Coding of Moving Pictures and Audio," ISO/IEC JTC1/SC29/WG11 N1993, San Jose, February 1998; hereafter referred as ISO/IEC N1993 cited previously.)

Please note that some parts of ISO/IEC N1993 refer and incorporate MPER-4 version 1 (see section 1.3 of ISO/IEC N1993): "Coding of Moving Pictures and Associated Audio Information," ISO/IEC JTC1/SC29/WG11, MPEG96, January 1996; hereafter referred as ISO/IEC MPEG96."

ISO/IEC N1993 teaches a method of prioritizing encoded video data stream, the method comprising:

-- identifying a video object (VO) from a video data; (section 1.5 page vii; Data associated with video objects are coded. For the coding, VOs are inherently identified.)

-- coding time instances of video object as a plurality of coded object planes (VOPs);  
(section 1.5 page vii)

-- assigning each of the VOPs to one of a plurality of video object layers (VOLs) for the video object based on information content of the VOPs; (section 1.5 page vii; section 1.5.2; section 7.2.4 in pages 3-5)

-- assigning a priority, that comprises an identifier, to each VOL, using at least a two-bit value (see below) wherein the identifier comprises:

- an `is_visual_object_identifier` flag, having a length of one bit that, when set to "1" indicates that priority is specified for the VOL; (pages 3 and 13; The "`is_visual_object_identifier`" is the flag.)

- wherein the at least two-bit value related to a `video_object_layer_priority` field, having a length of three bits, taking value between 1 and 7, where 1 represents a highest priority and 7 represents a lowest priority, wherein the priority information uses at least a two-bit value. (pages 3 and 13; The "`video_object_layer_priority`" is the field.)

-- transmitting each VOL by: (1) transmitting an identifier of the VOL and (2) transmitting VOPs of the VOL. (sections 1.1, 1.4, 1.5.2, 7.2.4, and 7.2.6; The identifier and VOPs of the VOL are transmitted. Also see Fig. 3.1.2 of ISO/IEC MPEG96.)

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 34, 39-41, and 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over ISO/IEC N1993 in view of Chang et al. (US patent 6,025,877 cited previously.)

ISO/IEC N1993 teaches a method of prioritizing encoded video data stream, the method comprising:

- identifying a video object (VO) from a video data; (section 1.5 page vii; Data associated with video objects are coded. For the coding, VOs are inherently identified.)
- coding time instances of video object as a plurality of coded object planes (VOPs); (section 1.5 page vii)
- assigning each of the VOPs to one of a plurality of video object layers (VOLs) for the video object based on information content of the VOPs; (section 1.5 page vii; section 1.5.2; section 7.2.4 in pages 3-5)
- assigning a priority, that comprises an identifier, to each VOL, using at least a two-bit value (see below) wherein the identifier comprises:
  - an `is_visual_object_identifier` flag, having a length of one bit that, when set to "1" indicates that priority is specified for the VOL; (pages 3 and 13; The "`is_visual_object_identifier`" is the flag.)
  - wherein the at least two-bit value related to a `video_object_layer_priority` field, having a length of three bits, taking value between 1 and 7, where 1 represents a highest priority and 7



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represents a lowest priority, wherein the priority information uses at least a two-bit value. (pages 3 and 13; The "video\_object\_layer\_priority" is the field.)

-- transmitting each VOL by: (1) transmitting an identifier of the VOL and (2) transmitting VOPs of the VOL. (sections 1.1, 1.4, 1.52, 7.24, and 7.26; The identifier and VOPs of the VOL are transmitted.)

However, ISO/IEC N1993 does not teach the transmitting step recited in Claims 34 and 39.

Chang teaches a method of encoding a video data stream comprising the steps of:

-- assigning a priority to VOL data for the case there is only one single VOL of each video object; (Fig. 2, element 21; column 3, lines 10-26)

-- wherein information related to the single VOL data having a high priority is transmitted before information related to VOL data having a low priority; (column 3, lines 57-67)

-- (a) the priority data identifies which VOL layer may be discarded in the event of (a1) limited memory or processor resources, (a2) channel errors and (b) determining whether transmission conditions permit transmission of all VOLs of the video object; (column 3, lines 32-40, 58-64; Fig. 5; Fig. 5 teaches to transmit parts of information according to the priority and according to various conditions. A low current transmission speed is an indicator of channel congestion that causes channel error. The transmission speed in a network assigned to the system is varied. When the speed is reduced, the channel bandwidth is lost. It is also representing a limitation to the overall process resource of the receiving part. )

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- if, not, discarding a lowest priority VOL and transmitting remaining VOL data. (

As shown in Fig. 5, Chang teaches a case that the  $(TxSetSize + ObjSize(\text{lowest priority}))$  becomes larger than  $egs$ . In that case the lowest priority VOL is discarded.)

It is desirable to maintain high quality of video services of various transmission speeds. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to apply Chang's teaching to transmit VOLs and priority data taught by ISO/IEC N1993 to a decoder according to the assigned priority associated with the identifier because the combination provides scalable transmission to minimize the effect variable transmission speed for optimizing the quality of transmitted data.

For Claim 44, both ISO/IEC N1993 and Chang teach a method of decoding encoded video data stream generated in their respective coding method. (Fig. 2 of section 8 of ISO/IEC N1993 teaches the modified version 1. Also see section 5 of ISO/IEC MPEG96.) As discussed above, the priority data identifies which VOL layer may be discarded in the event of limited memory or processor resources in the coding process, the combination also meets the limitation of the method of decoding recited in Claim 44.

11. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US patent 6,097,842 cited previously) in view of ISO/IEC JTC1/SC29/WG11 N1993 publication ("Coding of Moving Pictures and Audio," ISO/IEC JTC1/SC29/WG11 N1993, San Jose, February 1998; hereafter referred to as ISO/IEC N1993 cited previously.)

Suzuki teaches a method of prioritizing encoded video data stream, the method comprising:

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-- identifying a video object (VO) from a video data; (Fig. 32)

-- coding time instances of video object as a plurality of coded object planes (VOPs);

(Fig. 32)

-- assigning each of the VOPs to one of a plurality of video object layers (VOLs) for the video object based on information content of the VOPs; (Fig. 32)

-- transmitting each VOL by: (1) transmitting an identifier of the VOL and (2)

transmitting VOPs of the VOL. (column 31, line 29 to column 33, line 49; Figs. 32-37; column 31, lines 9-27 and 47-50; The one-bit flag scalability is transmitted. )

However, Suzuki does not teach the identifier recited in Claim 30.

ISO/IEC N1993 teaches an identifier including:

-- a flag, having a length of one bit that, when set to "1" indicates that priority is specified for the VOL; (pages 3 and 13; The "is\_visual\_object\_identifier" is the flag.)

-- a field, having a length of three bits, taking value between 1 and 7, where 1 represents a highest priority and 7 represents a lowest priority, wherein the priority information uses at least a two-bit value. (pages 3 and 13; The "video\_object\_layer\_priority" is the field.)

It is desirable to have more flexibility in adjusting scalability with including object base scalability. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Suzuki's VOL syntax shown in Fig. 35 with Table 7.2.4 of ISO/IEC N1993 to include the above flag and field in the identifier, because the combination provides more flexibility in scalability. The combination thus transmits an identifier of the VOL's priority.

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12. Claims 34-35 and 39-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US patent 6,097,842 cited previously) in view of ISO/IEC N1993 cited above and Chang et al. (US patent 6,025,877 cited previously.)

Suzuki teaches a method of prioritizing encoded video data stream, the method comprising:

- identifying a video object (VO) from a video data; (Fig. 32)
- coding time instances of video object as a plurality of coded object planes (VOPs); (Fig. 32)
- assigning each of the VOPs to one of a plurality of video object layers (VOLs) for the video object based on information content of the VOPs; (Fig. 32)
- transmitting each VOL by: (1) transmitting an identifier of the VOL and (2) transmitting VOPs of the VOL. (column 31, line 29 to column 33, line 49; Figs. 32-37; column 31, lines 9-27 and 47-50; The one-bit flag scalability is transmitted. )

However, Suzuki does not teach the identifier interpreted as that recited in Claim 35.

ISO/IEC N1993 teaches:

- adding priority data for each video object layer to the video streams; (pages 3 and 13)
- an identifier including a flag, having a length of one bit that, when set to "1" indicates that priority is specified for the VOL; (pages 3 and 13; The "is\_visual\_object\_identifier" is the flag.)
- wherein the indication of the priority of the VOL is optional; (The one-bit "is\_visual\_object\_identifier" flag indicates whether priority is set or not.)

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-- an identifier including a field, having a length of three bits, taking value between 1 and 7, where 1 represents a highest priority and 7 represents a lowest priority. (pages 3 and 13; The "video\_object\_layer\_priority" is the field.)

It is desirable to have more flexibility in adjusting scalability with a method including object base scalability. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Suzuki's VOL syntax shown in Fig. 35 with Table 7.2.4 of ISO/IEC N1993 to include the above flag and field in the identifier, because the combination provides more flexibility in scalability. The combination thus transmits an identifier of the VOL's priority.

However, the combination of Suzuki and ISO/IEC N1993 does not teach the transmitting step recited in Claims 34 and 39.

Chang teaches a method of encoding a video data stream comprising the steps of:

-- assigning a priority to VOL data for the case there is only one single VOL of each video object; (Fig. 2, element 21; column 3, lines 10-26)

-- wherein information related to the single VOL data having a high priority is transmitted before information related to VOL data having a low priority; (column 3, lines 57-67)

-- (a) the priority data identifies which VOL layer may be discarded in the event of (a1) limited memory or processor resources, (a2) channel errors and (b) determining whether transmission conditions permit transmission of all VOLs of the video object; (column 3, lines 32-40, 58-64; Fig. 5; Fig. 5 teaches to transmit parts of information according to the priority and according to various conditions. A low current transmission speed is an indicator of channel congestion that causes channel error. The transmission speed in a network assigned to the system

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is varied. When the speed is reduced, the channel bandwidth is lost. It is also representing a limitation to the overall process resource of the receiving part. )

- if, not, discarding a lowest priority VOL and transmitting remaining VOL data. (

As shown in Fig. 5, Chang teaches a case that the  $(TxSetSize + ObjSize(\text{lowest priority}))$

becomes larger than egs. In that case the lowest priority VOL is discarded.)

It is desirable to maintain high quality of video services of various transmission speeds. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to apply Chang's teaching to transmit VOLs and priority data taught by the combination of Suzuki and ISO/IEC N1993 to a decoder according to the assigned priority associated with the identifier because the combination provides scalable transmission to minimize the effect variable transmission speed for optimizing the quality of transmitted data.

For Claim 44, both Suzuki and Chang teach a method of decoding encoded video data stream generated in their respective coding method. (Fig. 2 of Chang; Fig. 27 of Suzuki) As discussed above, the priority data identifies which VOL layer may be discarded in the event of limited memory or processor resources in the coding process, the overall combination also meets the limitation of the method of decoding recited in Claim 44.

### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wenpeng Chen whose telephone number is 703 306-2796 before

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3/30/2005 and 571-272-7431 after 3/30/2005. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on 703 308-7452 before 3/30/2005 and 571-272-7437 after 3/30/2005. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications. TC 2600's customer service number is 703-306-0377.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-4700.

Wenpeng Chen  
Primary Examiner  
Art Unit 2624

May 11, 2005

